What is Claimed:

1. A method for all-frequency relighting using approximations based on an radiance accumulation derived from a combination of at least two real-time techniques and wherein a set of low frequencies of lighting are represented with a tabulated rendering method and high-frequency energy is approximated with an on-the-fly method.

2. The method of claim 1 wherein a set of low frequencies of lighting are represented with a precomputed radiance transfer (PRT) technique and high-frequency energy is approximated with a plurality of point lights.

3. The method of claim 1 wherein a set of low frequencies of lighting is rendered using a spherical harmonics technique.

4. The method of claim 1 wherein a set of high frequencies of lighting is rendered using a shadow map technique.

5. The method of claim 1 wherein a set of high frequencies of lighting is rendered using a shadow volumes technique.

6. The method of claim 1 further comprising:

segmenting a lighting environment into a plurality of regions;

prioritizing each of the plurality of regions for subsequent extraction and approximation with a plurality of small analytic light sources; and

allocating one or more point samples to each of said plurality of regions.

7. The method of claim 6 wherein said element of prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources comprises is based on high-frequency energy reduction.

8. The method of claim 6 wherein said element of prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources comprises is based on an iterative algorithm for a background estimation.

9. The method of claim 6 wherein said element of prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources comprises is based on a contrast technique.

10. A system for all-frequency relighting comprising a subsystem for determining approximations based on an radiance accumulation derived from a combination of at least two real-time techniques comprising:

a subsystem for representing a set of low frequencies of lighting with a tabulated rendering method; and

a subsystem for approximating high-frequency energy using an on-the-fly method.

11. The system of claim 10 further comprising a subsystem for representing a set of low frequencies of lighting with precomputed radiance transfer (PRT) and a subsystem for approximating high-frequency energy with a plurality of point lights.

12. The system of claim 11 further comprising a subsystem using a spherical harmonics technique to render a set of low frequencies of lighting.

13. The system of claim 11 further comprising a subsystem using a shadow map technique to render a set of high frequencies of lighting.

14. The system of claim 11 further comprising a subsystem using a shadow volumes technique to render a set of high frequencies of lighting.

15. The system of claim 11 further comprising:

a subsystem for segmenting a lighting environment into a plurality of regions;

a subsystem for prioritizing each of the plurality of regions for subsequent extraction and approximation with a plurality of small analytic light sources; and

a subsystem for allocating one or more point samples to each of said plurality of regions.

16. The system of claim 15 wherein said subsystem for prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources utilizes a high-frequency energy reduction technique.

17. The system of claim 15 wherein said subsystem for prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources utilizes an iterative algorithm for a background estimation technique.

18. The system of claim 15 wherein said subsystem for prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources utilizes a contrast technique.

19. A computer-readable medium comprising computer-readable instructions for all-frequency relighting using approximations based on an radiance accumulation derived from a combination of at least two real-time techniques, said computer readable instructions comprising instructions for:

representing a set of low frequencies of lighting with a tabulated rendering method; and

approximating high-frequency energy with an on-the-fly method.

20. The computer-readable instructions of claim 19 further comprising instructions whereby a set of low frequencies of lighting are represented with a precomputed radiance transfer (PRT) technique and high-frequency energy is approximated with a plurality of point lights.

21. The computer-readable instructions of claim 20 further comprising instructions whereby a set of low frequencies of lighting is rendered using a spherical harmonics technique.

22. The computer-readable instructions of claim 20 further comprising instructions whereby a set of high frequencies of lighting is rendered using a shadow map technique.

23. The computer-readable instructions of claim 20 further comprising instructions whereby a set of high frequencies of lighting is rendered using a shadow volumes technique.

24. The computer-readable instructions of claim 20 further comprising:

instructions for segmenting a lighting environment into a plurality of regions;

instructions for prioritizing each of the plurality of regions for subsequent extraction and approximation with a plurality of small analytic light sources; and

instructions for allocating one or more point samples to each of said plurality of regions.

25. The computer-readable instructions of claim 24 further comprising instructions whereby said element of prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources comprises is based on high-frequency energy reduction.

26. The computer-readable instructions of claim 24 further comprising instructions whereby said element of prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources comprises is based on an iterative algorithm for a background estimation.

27. The computer-readable instructions of claim 24 further comprising instructions whereby said element of prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources comprises is based on a contrast technique.

28. A hardware control device for all-frequency relighting using approximations based on an radiance accumulation derived from a combination of at least two real-time techniques, said device comprising:

means by which a set of low frequencies of lighting are represented with a precomputed radiance transfer (PRT) technique and high-frequency energy is approximated with a plurality of point lights;

means by which a set of high frequencies of lighting is rendered using one of a set of techniques, said set of techniques comprising: a shadow map technique, and a shadow volumes technique.

29. The hardware control device of claim 28 further comprising:

means for segmenting a lighting environment into a plurality of strata regions;

means for prioritizing each of the plurality of regions for subsequent extraction and approximation with a plurality of small analytic light sources; and

means for allocating one or more point samples to each of said plurality of regions.

30. The hardware control device of claim 29 wherein said means for prioritizing each of the plurality of regions for subsequent extraction and approximation with point light sources comprises means employing a technique based on one of the following sets of techniques: a high-frequency energy reduction technique, an iterative algorithm for a background estimation technique, and a contrast technique.

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